



# Before You Dig - Tips for Construction Activities in the Streeterville Area

Chicago, Illinois

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## INTRODUCTION

The purpose of this update is to provide basic background information on the history of thorium within the Streeterville area and basic procedures when uncovering or intruding into subsurface soils within the potentially contaminated area.

## BACKGROUND

In the 1990's, U.S. EPA became involved in Streeterville due to the discovery and excavation of approximately 40,000 tons of radioactive thorium-contaminated soils that were located during property development and utilities installation and maintenance. Additional subsurface thorium contamination has been found in other Streeterville locations. This contaminated material must be managed in accordance with State and Federal environmental requirements. U.S. EPA believes that radioactive material from the Lindsay Light and Chemical Company (Lindsay Light) was disposed of in the Streeterville area, but there is no complete information where it was disposed.

Our historical research indicate that beginning in about 1904 and continuing, perhaps, through the mid 1930's, Lindsay Light manufactured thorium mantles impregnated with thorium in the City of Chicago. The Lindsay Light operation originated at 22 West Hubbard and later moved to 161 East Grand and 316 East Illinois Street in Chicago, Illinois. Ore was processed at the

Illinois Street site and made into mantles at the East Grand site.

Details regarding Lindsay Light operations at 22 West Hubbard are very sketchy. From the early 1900s until the early 1920s, the 22 West Hubbard building was a five-story building occupied by Lindsay Light, however, it is not known which operations took place at this location. About 1932, Lindsay Light began moving to West Chicago, Illinois and closed its Streeterville operations by about 1936.

## PROCEDURES

If subsurface thorium wastes are uncovered without proper environmental controls, workers and the public may be exposed to elevated radiation levels. Also, if not managed properly, the radioactive materials might be spread to other locations. If your work involves removing the asphalt, concrete or other materials covering subsurface soils or tunneling, digging or otherwise intruding into subsurface soils, the following radiation survey testing procedures must be followed. The results should be presented in a written report sent to U.S. EPA. This report should be detailed enough that someone not present would be able to follow the actions performed. Please call U.S. EPA 48 hours prior to performing a walkover survey so that we may observe. This report should be given to U.S. EPA prior to breaking ground in Streeterville.

- **Determine the site radiation level.**  
Hold a gamma-ray survey probe (sodium iodide detector) about 6 inches off the ground and walk the entire area along parallel lines about 3 - 4 feet apart. The site background level is determined by looking at the lowest count rate readings and looking for spots and regions of elevated radiation levels. If background readings appear to be elevated over expectations, U.S. EPA may ask for an off-site determination of background for the area.
- **Quantify exposure environment.**  
Take readings of 30 second counts, on contact with the ground, at intervals of 10 feet along parallel lines five feet apart to quantify the exposure environment (these include background levels). Next, take readings at selected spots where initial readings were over twice the background level.
- **Assess an anomaly.**  
If readings indicate anomalies, then subsurface gamma-ray count rate readings and soil samples will need to be collected. These samples will need to be analyzed for radionuclide identification and quantification. However, radioactive waste may be created here and workers and equipment could get contaminated, so this phase should not be done without a U.S. EPA approved health and safety plan and a means of disposing of contaminated soil, protective clothing, etc.

## FOR ADDITIONAL INFORMATION

If you have questions about these procedures, equipment specifications, or thorium contamination in Streeterville, please contact:

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**24-hour response number  
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Lindsay Light site-related information is available at the following location:

**Harold Washington Public Library  
400 South State  
Chicago, Illinois**

Monday: 9:00 a.m. to 7:00 p.m.  
Tues. and Thurs.: 11:00 a.m. to 7:00 p.m.  
Wed., Fri., and Sat.: 9:00 a.m. to 5:00 p.m.

## WEB SITE

This and additional updates can be found at the following web site:

**[www.epa.gov.region5/sites/](http://www.epa.gov.region5/sites/)**

Scroll down through the list to find the Lindsay Light II/RV3 North Columbus Drive site.